

## Patent Claims:

1. A polypeptide having the biological activity of a histidine phosphatase which has a high specificity for phosphohistidine and a molecular weight of 13.000 – 15.000, obtainable by purification from mammalian tissue by at least one anion exchange chromatography, one gel filtration and one affinity chromatograph step.
2. A polypeptide according to claim 1 comprising at least the amino acid sequence motif  
DCECLGGGRISHQSQD
3. A polypeptide according to claim 1 comprising at least the amino acid sequence motif  
DCECLGGGRISHQSQDX<sup>1</sup>KIHVYGYSMX<sup>2</sup>YGX<sup>3</sup>AQH  
wherein X<sup>1</sup> = K or R, X<sup>2</sup> = A or G and X<sup>3</sup> = P or R.
4. A polypeptide according to claim 1 comprising at least the amino acid sequence motif  
YHADIYDKVSGDMQKQGCDCECLGGGRISHQSQDKKIHVYGYSM.
5. A polypeptide having the biological activity of a histidine phosphatase which has a high specificity for phosphohistidine and a molecular weight of 13.000 – 15.000, comprising the following amino acid sequence:  
(M) AVADLALIPDVIDSDGVFKYVLIRVHSAPRSGAPAAESKEIVRGYKWAIEYH  
ADIYDKVSGDMQKQGCDCECLGGGRISHQSQDKKIHVYGYSMAYGPAQHAISTEK  
IKAKYPDYEVTWANDGY.
6. A polypeptide having the biological activity of a histidine phosphatase which has a high specificity for phosphohistidine and a molecular weight of 13.000 – 15.000, the amino acid sequence of which has a homology of 64 – 99% compared with the sequence depicted in claim 3.

7. A polypeptide according to claim 6 comprising the following amino acid sequence:

AAAGLAQIPDVIDIDSDGVFKYVLIRVHAAPPSEAPGGESKDIVRGYKWAHEYHADI  
YDKVSGELQKKGHDCECLGGGRISHQSQDRKIHVYGYSMGYGRAQHSVSTEKIRA  
KYPDYEVTWADDGY.

5

8. A DNA coding for a polypeptide of any of the claims 1 - 7.

9. A DNA according to claim 8 comprising the nucleotide sequence:

(ATG) GCGGTGGCGGACCTCGCTCTCATTCCTGATGTGGACATCGACTCCGACGG  
CGTCTTCAAGTATGTGCTGATCCGAGTCCACTCGGCTCCCCGCTCCGGGGCTCCG  
GCTGCAGAGAGCAAGGAGATCGTGCGCGGCTACAAGTGGGCTGAGTACCATGCGG  
ACATETACGACAAAGTGTCGGGCGACATGCAGAAGCAAGGCTGCGACTGTGAGTG  
TCTGGGCGGCGGGCGCATCTCCCACCAGAGTCAGGACAAGAAGATTCACGTGTAC  
GGCTATTCCATGGCCTATGGTCCTGCCCAGCACGCCATTTCAACTGAGAAAATCA  
AAGCCAAGTACCCCGACTACGAGGTCACCTGGGCTAACGACGGCTAC

10

15

10. Pharmaceutical preparation comprising a polypeptide according to any of the claims 1- 7, where appropriate, together with suitable excipients, carriers and other active ingredients.

20

11. An antibody directed to a polypeptide according to claims 1- 7.

T04060 "T04060"